CLAIMS

Claim 1. An anti-bacterial composition, more particularly to control Gram-negative bacteria, comprising the association:

a) of at least one peptide of 10 to 25 amino-acid residues comprising:

i) two positively charged domains at neutral pH formed by 3 to 9 amino-acid residues, of which at least two thirds are cationic amino acids;

ii) between the said positively charged domains, a group of two or three non-cationic amino-acid residues;

iii) at either N/ or C/terminal extremity of the peptide, a group of 0 to 10, preferably 0 to 5, amino-acid residues chosen from the group comprising non-hydrophobic amino acids and positively charged amino acids, however, in the case of a residue of a positively charged amino acid, the latter is not immediately adjacent to the positively charged domains.

b) at least one anti-bacterial compound.   ,

Claim 2: A composition according to Claim 1, characterized in that (i) the cationic amino acids of the two positively charged domains are chosen from the group comprising arginine and lysine, and (ii) the non-cationic amino acids of the group between the said positively charged domains being:

- non hydrophobic amino acids chosen, e.g., from the group comprising glutamic acid, serine, glycine, and glutamine, or

- leucine

Claim 3: A composition according to one of Claims 1 or 2, characterized in that the peptide is chosen from the group comprising the following sequences: SEQ ID.NO:1, SEQ ID.NO:2, SEQ ID.NO:3, SEQ ID.NO:4, SEQ ID.NO:5, SEQ ID.NO:6, SEQ ID.NO:7, SEQ ID.NO:8, SEQ ID.NO:9, SEQ ID.NO:11.

Claim 4: A composition according to any of the Claims 1 to 3, characterized in that the peptide is chosen from the group comprising the following sequences: SEQ ID.NO:1, SEQ ID.NO:2, SEQ ID.NO:3, SEQ ID.NO:4, SEQ ID.NO:5, SEQ ID.NO:6, SEQ ID.NO:7.

Claim 5: Composition according to any of Claims 1 to 3, characterized in that the anti-bacterial compound is chosen from compounds presenting physiochemical properties rendering them incapable of passing through the membrane of the Gram-negative
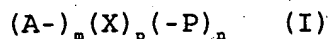
bacteria.

Claim 6: A composition according to any of the previous claims, characterized in that the anti-bacterial compound is hydrophobic.

Claim 7: A composition according to any of the previous claims, characterized in that the anti-bacterial compound is of a non-peptidic chemical nature.

Claim 8: A composition according to any of the previous claims, characterized in that the anti-bacterial compound is chosen from a group comprising the following compounds: the antibiotics of the macrolides family, ketolides, such as erythromycin, clarithromycine, azithromycine, telithromycine.

Claim 9: A composition according to any of the previous claims, characterized in that it comprises an association of one or more anti-bacterial peptides and compounds, either in the form of a mixture or a product in which one or more identical or different peptides are covalently bound to one or more identical or different antibacterial compounds, possibly by means of a spacer arm.

Claim 10: A composition according to any of the previous claims, characterized in that it comprises a product of the following formula (I):

$$(A-)_m(X)_p(-P)_n \quad (I)$$

where A is the residue of an anti-bacterial compound, P is the residue of a peptide, as defined in the preceding claims, and X represents either a covalent bond between A and P or a spacer arm linking at least an A residue to at least a P residue, m is an integer from 1 to 3, n is an integer from 1 to 3, and p represents zero or an integer at the most equal to the greater of the numbers m and n.

Claim 11: A product of the following formula (I):

$$(A-)_m(X)_p(-P)_a \quad (I)$$

As defined in Claim 9.

Claim 12: The use of a peptide of the formula (I) as defined in any of the Claims 1 to 4 for the preparation of an anti-bacterial pharmaceutical composition, more specifically against the Gram-negative bacteria, in which the said peptide is associated to at least one anti-bacterial compound as defined in one of the

Claims 1 or 5 to 8.

    Claim 13: The use of a peptide of the formula (I) as defined in
any of the Claims 1 to 4 for the preparation of an anti-bacterial
pharmaceutical composition, more particularly to control the Gram-
negative bacteria, in which composition the said peptide passes
through the bacterial membrane in order to deliver to the interior of
these an antibacterial compound, as defined in Claim 1 or one of the
Claims 5 to 8, to which it is associated in the said composition.

    Figure 2